

Institutional Analysis of the Use of Seasonal Precipitation Forecasting to Improve Agricultural Production in the Sahel-Sudan - A Case Study of Burkina Faso

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Several national and international meteorological services produce seasonal or climate precipitation forecasts for the Sahel-Sudan region of West Africa. These forecasts are based on the effects that world-wide sea surface temperatures (SST) anomalies (for example, those associated with El Nino-Southern Oscillation, ENSO) have on regional weather patterns. The following countries are part of the Sahel-Sudan; Senegal, Mauritania, Mali, Burkina Faso, Niger, Chad, and Sudan (see Figure 1).

These forecasts of the expected deviation of seasonal rainfall from the long term average may have sufficient precision that governments, businesses, and farmers can use them to improve decision making in agriculture production. A research project has recently been initiated to study obstacles and incentives to using these forecasts in the Sahel-Sudan region, using Burkina Faso as a case study. Analysis is being conducted at the institutional, farmer, and pastoralist levels. As part of this study, an analysis has been completed of the state of the art in climate forecasting and of present and possible institutional use of the forecasts.

For background, this paper includes overviews of the Sahel-Sudan climate and Burkinabe farming systems. This is followed by the state of the art in climate forecasting and descriptions of the major organizations regularly producing seasonal forecasts for the region. An analysis is then presented of how regional and Burkinabe institutions involved in meteorology and agriculture use or might use a seasonal forecast to perform their functions. It also includes information flows, mechanisms for disseminating forecasts to farmers, and recommendations of institutions for forecast improvements.